

# CHART LA CROSSE WI. ENVIRONMENTAL ACCOMPLISHMENTS GOALS 2017 AND TARGETS 2018

Chart has had an interesting year with several noteworthy accomplishments.

## K Bay Addition

In mid-April Chart started construction on a 20,000 sq. ft. addition. This addition includes 2 high efficiency HVAC units with outside air make-up, led lighting throughout the addition, translucent panels to increase lighting in the work area. The exterior is lit with led lighting and two rain gardens were installed in the parking lot to handle drainage reducing the storm water run-off. Finally additional insulation was incorporated in the new addition to further reduce our energy requirements. Picture below are the newly install rain gardens.

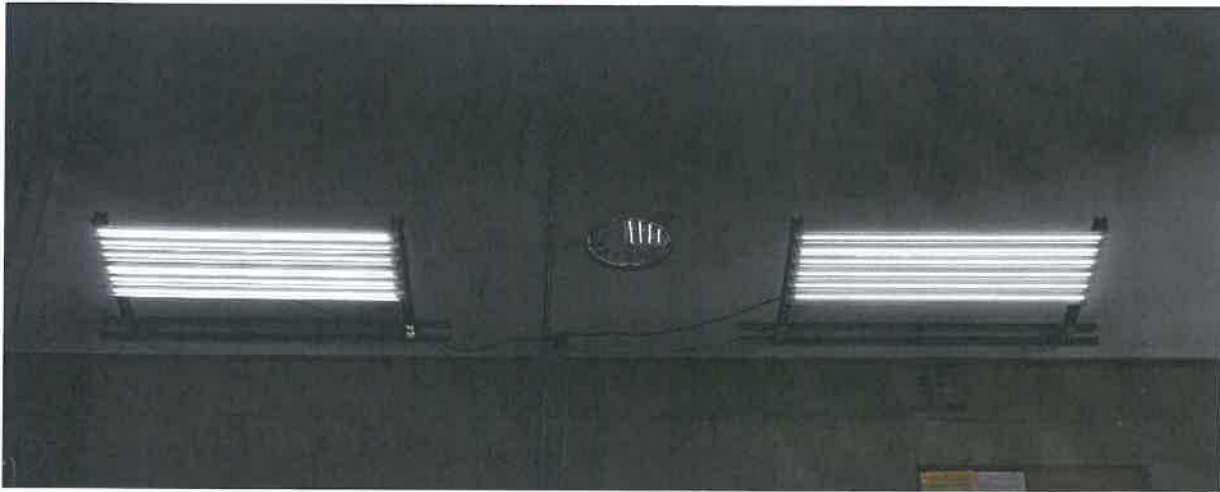




### **LED lighting project**

The led light project is nearing completion. Previously 3 of the 10 bays were lit by led lighting. We have completed the project with all 10 bays lit with led lighting. Total lit area 280,000 ft. sq. Additional we are 90% complete on relighting of the office areas. A side note to this project is not only are we using less electricity are getting more light. Currently in several offices the number of lights was reduce from 6 to 4 with no measurable loss of light. **2018 Goal Complete the LED change over.**





### **Boiler Energy Reduction Project update**

Several years ago Chart started a project to reduce our natural gas usage in our steam generation area. I am happy to report that we have seen and sustain a 33% reduction in natural gas usage per heating degree days in both 2016 & 2017. The large boiler with it's improve controls runs most of the time and handles the plant loads. The two smaller boilers are only used to handle service peaks or back-up to the primary.





### **Aluminium scrap reduction**

This project continues in 2018. In 2017 we saw an additional 5% drop in aluminium scrap through engineering controls and best practices in producing our exchangers. Since the beginning of this program we have seen a reduction of 30% on the average for a scrap reduction. Occasionally we are seeing spikes. This year our goal is to address and understand the spikes to control and add consistence to this measurement. **2018 Goal is to consistency achieve this goal.**

### **Helium usage reduction program.**

The helium usage reduction program proved to be somewhat elusive in quantifying. Chart uses helium as a shielding gas in its aluminium welding process and as a signal gas in our leak testing. Since we are unable to normalize the data due to the production variables we attacked the problem on a different level. We set-up a maintenance program of leak detection on our internal piping. This program discovered several large leaks that we were able to correct. We estimate using one less truckload of helium in 2017 due to this program.





#### **Electrical usage peak demand shaving.**

Electrical Peak demand shaving Goal of 25% reduction in electrical costs was achieved. We continue to maintain this progress by scheduling the start-up in energy intensive equipment at off peak hours to shave out total demand.

#### **Single Stream Recycling**

We have single stream recycling available to us. I currently estimate we recycle approximately 70 % on the available materials in the paper, plastic and cardboard classification. This estimate was derived from a random sample of trash containers and estimating the amount of materials in the container that was miss discarded. **The 2018 goal is 80%.**



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## **Environmental System Auditing**

**Compliance audits** - There were no compliance audits conducted this year. Per our Green Tier contract compliance audits are on a bi-annual schedule.

**Internal Audits** – There was one internal audit in 2017. Two minor finding were noted. One of the findings was in reference to material storage and the second finding noted a minor issue regarding monitoring of our fire extinguishers.

**TUV surveillance audit** – A minor finding was identified regarding our environmental aspects. In addition to materials the various systems needed to be identified, an example is purchasing.

All audit finds have been corrected through our Corrective Action System.

A handwritten signature in blue ink, appearing to read "Ken Rupp".

Ken Rupp  
Chart Energy & Chemical Quality & Environmental Manager